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Anti-GAPDH(3E12) antibody

Purified Mouse Monoclonal Antibody (Mon)
Catalog # AP50812

Product Information

Application	WB, IHC-P, IHC-F, IF, ICC
Primary Accession	P04797
Reactivity	Mouse, Rat, Rabbit
Host	Mouse
Clonality	Monoclonal
Calculated MW	35828

Additional Information

Gene ID	24383
Other Names	Glyceraldehyde-3-phosphate dehydrogenase, GAPDH, 38 kDa BFA-dependent ADP-ribosylation substrate, BARS-38, Peptidyl-cysteine S-nitrosylase GAPDH, 2699-, Gapdh, Gapd
Dilution	WB=1:1000-5000,IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100,IF=1:100-500
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	Gapdh
Synonyms	Gapd
Function	Has both glyceraldehyde-3-phosphate dehydrogenase and nitrosylase activities, thereby playing a role in glycolysis and nuclear functions, respectively (PubMed:15951807, PubMed:17934141, PubMed:20972425). Glyceraldehyde-3-phosphate dehydrogenase is a key enzyme in glycolysis that catalyzes the first step of the pathway by converting D-glyceraldehyde 3-phosphate (G3P) into 3-phospho-D- glyceroyl phosphate (PubMed:17934141). Modulates the organization and assembly of the cytoskeleton. Facilitates the CHP1-dependent microtubule and membrane associations through its ability to stimulate the binding of CHP1 to microtubules (PubMed:15312048). Component of the GAIT (gamma interferon-activated inhibitor of translation) complex which mediates interferon-gamma-induced transcript-selective translation inhibition in inflammation processes. Upon interferon-gamma treatment assembles into

	the GAIT complex which binds to stem loop- containing GAIT elements in the 3'-UTR of diverse inflammatory mRNAs (such as ceruplasmin) and suppresses their translation (By similarity). Also plays a role in innate immunity by promoting TNF-induced NF-kappa- B activation and type I interferon production, via interaction with TRAF2 and TRAF3, respectively (By similarity). Participates in nuclear events including transcription, RNA transport, DNA replication and apoptosis (PubMed:10424669, PubMed:15951807, PubMed:20972425). Nuclear functions are probably due to the nitrosylase activity that mediates cysteine S-nitrosylation of nuclear target proteins such as SIRT1, HDAC2 and PRKDC (PubMed:15951807, PubMed:20972425).
Cellular Location	Cytoplasm, cytosol. Cytoplasm, cytoskeleton. Nucleus. Note=Translocates to the nucleus following S-nitrosylation and interaction with SIAH1, which contains a nuclear localization signal (PubMed:15951807). Colocalizes with CHP1 to small punctate structures along the microtubules tracks (PubMed:15312048).
Tissue Location	High levels in skeletal muscle and heart, low levels in liver, brain, and kidney.

Background

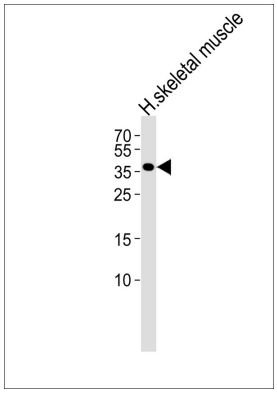
Has both glyceraldehyde-3-phosphate dehydrogenase and nitrosylase activities, thereby playing a role in glycolysis and nuclear functions, respectively. Glyceraldehyde-3-phosphate dehydrogenase is a key enzyme in glycolysis that catalyzes the first step of the pathway by converting D-glyceraldehyde 3- phosphate (G3P) into 3-phospho-D-glyceroyl phosphate. Modulates the organization and assembly of the cytoskeleton. Facilitates the CHP1-dependent microtubule and membrane associations through its ability to stimulate the binding of CHP1 to microtubules. Also participates in nuclear events including transcription, RNA transport, DNA replication and apoptosis. Nuclear functions are probably due to the nitrosylase activity that mediates cysteine S- nitrosylation of nuclear target proteins such as SIRT1, HDAC2 and PRKDC. Component of the GAIT (gamma interferon-activated inhibitor of translation) complex which mediates interferon-gamma-induced transcript-selective translation inhibition in inflammation processes. Upon interferon-gamma treatment assembles into the GAIT complex which binds to stem loop-containing GAIT elements in the 3'-UTR of diverse inflammatory mRNAs (such as ceruplasmin) and suppresses their translation (By similarity).

References

Fort P.,et al.Nucleic Acids Res. 13:1431-1442(1985).
Tso J.Y.,et al.Nucleic Acids Res. 13:2485-2502(1985).
Tajima H.,et al.NeuroReport 10:2029-2033(1999).
Zheng J.,et al.Submitted (SEP-2000) to the EMBL/GenBank/DDBJ databases.
Lubec G.,et al.Submitted (APR-2007) to UniProtKB.

Images

Western blot analysis of lysate from human skeletal muscle tissue lysate,using Anti-GAPDH(3E12) antibody(AP50812). AP50812 was diluted at 1:1000. A goat anti-mouse IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody.Lysate at 35ug.



Citations

- NF90 stabilizes cyclin E1 mRNA through phosphorylation of NF90-Ser382 by CDK2